

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_PEHR PAD**

**PEHR 36-1**

**PEHR 36-1**

**Plan: PEHR 36-1 (wp01)**

## **Standard Planning Report**

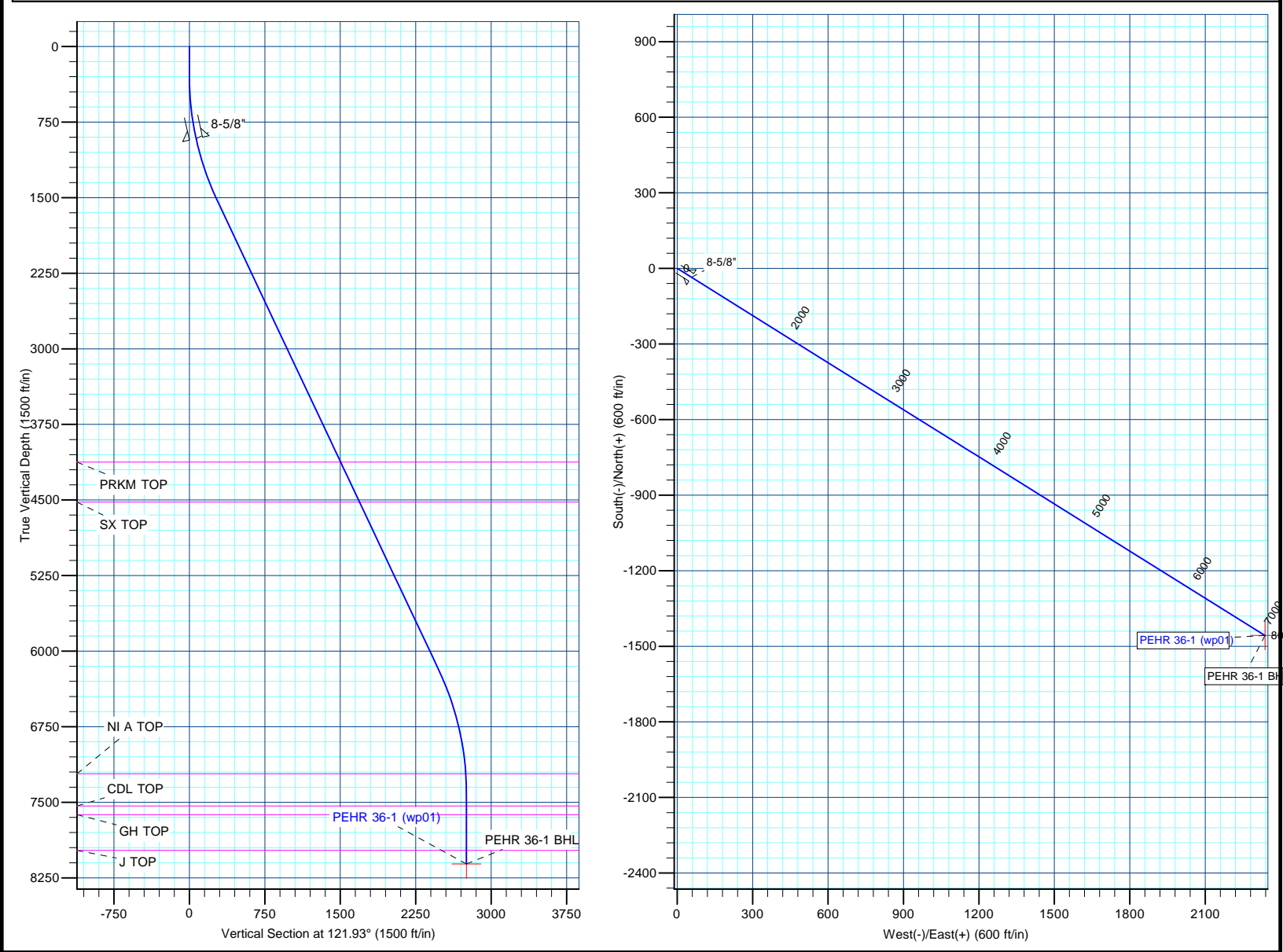
**09 November, 2011**

|   |                       |         |           |  |
|---|-----------------------|---------|-----------|--|
| Project: COLORADO NORTHERN ZONE - 83<br>Site: WELD_PEHR PAD<br>Well: PEHR 36-1<br>Wellbore: PEHR 36-1<br>Section:<br>SHL:<br>Design: PEHR 36-1 (wp01)<br>Latitude: 40.076870<br>Longitude: -104.847807<br>GL: 4944.00<br>KB: gl + rkb @ 4959.00ft | FORMATION TOP DETAILS |         |           |  |
|   | TVDPath               | MDPath  | Formation |  |
|   | 4124.00               | 4440.65 | PRKM TOP  |  |
|   | 4521.00               | 4879.79 | SX TOP    |  |
|   | 7217.00               | 7793.26 | NI A TOP  |  |
|   | 7536.00               | 8112.42 | CDL TOP   |  |
|   | 7623.00               | 8199.42 | GH TOP    |  |
|   | 7977.00               | 8553.42 | J TOP     |  |

| WELL DETAILS: PEHR 36-1 |       |            |                       |                    |             |      | CASING DETAILS |        |        |       | <div><div><div>T</div><div>M</div><div>A</div><div></div></div><div><div>Azimuths to True North</div><div>Magnetic North: 8.95°</div><div>Magnetic Field Strength: 53007.4snT</div><div>Dip Angle: 66.79°</div><div>Date: 12/2/2010</div><div>Model: IGRF2010</div></div></div> |
|-------------------------|-------|------------|-----------------------|--------------------|-------------|------|----------------|--------|--------|-------|---|
| +N/-S                   | +E/-W | Northing   | Ground Level: Easting | 4944.00            | Longitude   | Slot | TVD            | MD     | Name   | Size  |   |
| 0.00                    | 0.00  | 1271519.82 | 3182506.62            | Latitude 40.076870 | -104.847807 |      | 915.00         | 919.82 | 8-5/8" | 8-5/8 |   |

| DESIGN TARGET DETAILS |         |          |         |            |            |           |             |
|-----------------------|---------|----------|---------|------------|------------|-----------|-------------|
| Name                  | TVD     | +N/-S    | +E/-W   | Northing   | Easting    | Latitude  | Longitude   |
| PEHR 36-1 BHL         | 8112.00 | -1456.99 | 2337.63 | 1270080.07 | 3184854.89 | 40.072870 | -104.839454 |

| SECTION DETAILS |       |        |         |          |         |      |        |         |
|-----------------|-------|--------|---------|----------|---------|------|--------|---------|
| MD              | Inc   | Azi    | TVD     | +N/-S    | +E/-W   | Dleg | TFace  | VSect   |
| 0.00            | 0.00  | 0.00   | 0.00    | 0.00     | 0.00    | 0.00 | 0.00   | 0.00    |
| 300.00          | 0.00  | 0.00   | 300.00  | 0.00     | 0.00    | 0.00 | 0.00   | 0.00    |
| 1565.28         | 25.31 | 121.93 | 1524.54 | -145.41  | 233.30  | 2.00 | 121.93 | 274.90  |
| 6723.14         | 25.31 | 121.93 | 6187.46 | -1311.58 | 2104.33 | 0.00 | 0.00   | 2479.61 |
| 7988.42         | 0.00  | 0.00   | 7412.00 | -1456.99 | 2337.63 | 2.00 | 180.00 | 2754.51 |
| 8688.42         | 0.00  | 0.00   | 8112.00 | -1456.99 | 2337.63 | 0.00 | 0.00   | 2754.51 |



# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |                      |
|------------------|-----------------------------|-------------------------------------|----------------------|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well PEHR 36-1       |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | gl + rkb @ 4959.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | gl + rkb @ 4959.00ft |
| <b>Site:</b>     | WELD_PEHR PAD               | <b>North Reference:</b>             | True                 |
| <b>Well:</b>     | PEHR 36-1                   | <b>Survey Calculation Method:</b>   | Minimum Curvature    |
| <b>Wellbore:</b> | PEHR 36-1                   |                                     |                      |
| <b>Design:</b>   | PEHR 36-1 (wp01)            |                                     |                      |

|                    |                             |                      |                |
|--------------------|-----------------------------|----------------------|----------------|
| <b>Project</b>     | COLORADO NORTHERN ZONE - 83 |                      |                |
| <b>Map System:</b> | US State Plane 1983         | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983   |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone      |                      |                |

|                              |               |                     |                   |                                 |
|------------------------------|---------------|---------------------|-------------------|---------------------------------|
| <b>Site</b>                  | WELD_PEHR PAD |                     |                   |                                 |
| <b>Site Position:</b>        |               | <b>Northing:</b>    | 1,271,518.67 usft | <b>Latitude:</b> 40.076867      |
| <b>From:</b>                 | Lat/Long      | <b>Easting:</b>     | 3,182,496.55 usft | <b>Longitude:</b> -104.847843   |
| <b>Position Uncertainty:</b> | 0.00 ft       | <b>Slot Radius:</b> | 0 "               | <b>Grid Convergence:</b> 0.42 ° |

|                             |              |                            |                  |                                  |
|-----------------------------|--------------|----------------------------|------------------|----------------------------------|
| <b>Well</b>                 | PEHR 36-1    |                            |                  |                                  |
| <b>Well Position</b>        | <b>+N/-S</b> | 1.08 ft                    | <b>Northing:</b> | 1,271,519.82 usft                |
|                             | <b>+E/-W</b> | 10.07 ft                   | <b>Easting:</b>  | 3,182,506.62 usft                |
| <b>Position Uncertainty</b> | 0.00 ft      | <b>Wellhead Elevation:</b> |                  | <b>Ground Level:</b> 4,944.00 ft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | PEHR 36-1         |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 12/2/2010          | 8.95                   | 66.79                | 53,007                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | PEHR 36-1 (wp01)             |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              | <b>Tie On Depth:</b> | 0.00                 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.00                         | 0.00              | 0.00                 | 121.93               |

| <b>Plan Sections</b> |                 |             |                     |            |            |                         |                        |                       |         |               |
|----------------------|-----------------|-------------|---------------------|------------|------------|-------------------------|------------------------|-----------------------|---------|---------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target        |
| 0.00                 | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                    | 0.00                   | 0.00                  | 0.00    |               |
| 300.00               | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                    | 0.00                   | 0.00                  | 0.00    |               |
| 1,565.28             | 25.31           | 121.93      | 1,524.54            | -145.41    | 233.30     | 2.00                    | 2.00                   | 0.00                  | 121.93  |               |
| 6,723.14             | 25.31           | 121.93      | 6,187.46            | -1,311.58  | 2,104.33   | 0.00                    | 0.00                   | 0.00                  | 0.00    |               |
| 7,988.42             | 0.00            | 0.00        | 7,412.00            | -1,456.99  | 2,337.63   | 2.00                    | -2.00                  | 0.00                  | 180.00  |               |
| 8,688.42             | 0.00            | 0.00        | 8,112.00            | -1,456.99  | 2,337.63   | 0.00                    | 0.00                   | 0.00                  | 0.00    | PEHR 36-1 BHL |

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## Planning Report

|                  |                             |                                     |                      |
|------------------|-----------------------------|-------------------------------------|----------------------|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well PEHR 36-1       |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | gl + rkb @ 4959.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | gl + rkb @ 4959.00ft |
| <b>Site:</b>     | WELD_PEHR PAD               | <b>North Reference:</b>             | True                 |
| <b>Well:</b>     | PEHR 36-1                   | <b>Survey Calculation Method:</b>   | Minimum Curvature    |
| <b>Wellbore:</b> | PEHR 36-1                   |                                     |                      |
| <b>Design:</b>   | PEHR 36-1 (wp01)            |                                     |                      |

| Planned Survey      |                 |             |                     |            |            |                       |                         |                        |                       |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 0.00                | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  |
| 100.00              | 0.00            | 0.00        | 100.00              | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  |
| 200.00              | 0.00            | 0.00        | 200.00              | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  |
| 300.00              | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  |
| 400.00              | 2.00            | 121.93      | 399.98              | -0.92      | 1.48       | 1.75                  | 2.00                    | 2.00                   | 0.00                  |
| 500.00              | 4.00            | 121.93      | 499.84              | -3.69      | 5.92       | 6.98                  | 2.00                    | 2.00                   | 0.00                  |
| 600.00              | 6.00            | 121.93      | 599.45              | -8.30      | 13.32      | 15.69                 | 2.00                    | 2.00                   | 0.00                  |
| 700.00              | 8.00            | 121.93      | 698.70              | -14.75     | 23.66      | 27.88                 | 2.00                    | 2.00                   | 0.00                  |
| 800.00              | 10.00           | 121.93      | 797.47              | -23.02     | 36.94      | 43.52                 | 2.00                    | 2.00                   | 0.00                  |
| 900.00              | 12.00           | 121.93      | 895.62              | -33.11     | 53.13      | 62.60                 | 2.00                    | 2.00                   | 0.00                  |
| 919.82              | 12.40           | 121.93      | 915.00              | -35.33     | 56.68      | 66.79                 | 2.00                    | 2.00                   | 0.00                  |
| 8-5/8"              |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,000.00            | 14.00           | 121.93      | 993.06              | -45.01     | 72.22      | 85.10                 | 2.00                    | 2.00                   | 0.00                  |
| 1,100.00            | 16.00           | 121.93      | 1,089.64            | -58.70     | 94.18      | 110.98                | 2.00                    | 2.00                   | 0.00                  |
| 1,200.00            | 18.00           | 121.93      | 1,185.27            | -74.16     | 118.99     | 140.21                | 2.00                    | 2.00                   | 0.00                  |
| 1,300.00            | 20.00           | 121.93      | 1,279.82            | -91.38     | 146.62     | 172.77                | 2.00                    | 2.00                   | 0.00                  |
| 1,400.00            | 22.00           | 121.93      | 1,373.17            | -110.34    | 177.03     | 208.60                | 2.00                    | 2.00                   | 0.00                  |
| 1,500.00            | 24.00           | 121.93      | 1,465.21            | -131.01    | 210.19     | 247.67                | 2.00                    | 2.00                   | 0.00                  |
| 1,565.28            | 25.31           | 121.93      | 1,524.54            | -145.41    | 233.30     | 274.90                | 2.00                    | 2.00                   | 0.00                  |
| 1,600.00            | 25.31           | 121.93      | 1,555.93            | -153.26    | 245.89     | 289.74                | 0.00                    | 0.00                   | 0.00                  |
| 1,700.00            | 25.31           | 121.93      | 1,646.34            | -175.87    | 282.17     | 332.49                | 0.00                    | 0.00                   | 0.00                  |
| 1,800.00            | 25.31           | 121.93      | 1,736.74            | -198.48    | 318.44     | 375.23                | 0.00                    | 0.00                   | 0.00                  |
| 1,900.00            | 25.31           | 121.93      | 1,827.14            | -221.09    | 354.72     | 417.98                | 0.00                    | 0.00                   | 0.00                  |
| 2,000.00            | 25.31           | 121.93      | 1,917.55            | -243.70    | 390.99     | 460.72                | 0.00                    | 0.00                   | 0.00                  |
| 2,100.00            | 25.31           | 121.93      | 2,007.95            | -266.31    | 427.27     | 503.47                | 0.00                    | 0.00                   | 0.00                  |
| 2,200.00            | 25.31           | 121.93      | 2,098.36            | -288.92    | 463.54     | 546.21                | 0.00                    | 0.00                   | 0.00                  |
| 2,300.00            | 25.31           | 121.93      | 2,188.76            | -311.53    | 499.82     | 588.96                | 0.00                    | 0.00                   | 0.00                  |
| 2,400.00            | 25.31           | 121.93      | 2,279.16            | -334.14    | 536.10     | 631.70                | 0.00                    | 0.00                   | 0.00                  |
| 2,500.00            | 25.31           | 121.93      | 2,369.57            | -356.75    | 572.37     | 674.44                | 0.00                    | 0.00                   | 0.00                  |
| 2,600.00            | 25.31           | 121.93      | 2,459.97            | -379.35    | 608.65     | 717.19                | 0.00                    | 0.00                   | 0.00                  |
| 2,700.00            | 25.31           | 121.93      | 2,550.38            | -401.96    | 644.92     | 759.93                | 0.00                    | 0.00                   | 0.00                  |
| 2,800.00            | 25.31           | 121.93      | 2,640.78            | -424.57    | 681.20     | 802.68                | 0.00                    | 0.00                   | 0.00                  |
| 2,900.00            | 25.31           | 121.93      | 2,731.19            | -447.18    | 717.47     | 845.42                | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00            | 25.31           | 121.93      | 2,821.59            | -469.79    | 753.75     | 888.17                | 0.00                    | 0.00                   | 0.00                  |
| 3,100.00            | 25.31           | 121.93      | 2,911.99            | -492.40    | 790.02     | 930.91                | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00            | 25.31           | 121.93      | 3,002.40            | -515.01    | 826.30     | 973.66                | 0.00                    | 0.00                   | 0.00                  |
| 3,300.00            | 25.31           | 121.93      | 3,092.80            | -537.62    | 862.57     | 1,016.40              | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00            | 25.31           | 121.93      | 3,183.21            | -560.23    | 898.85     | 1,059.15              | 0.00                    | 0.00                   | 0.00                  |
| 3,500.00            | 25.31           | 121.93      | 3,273.61            | -582.84    | 935.12     | 1,101.89              | 0.00                    | 0.00                   | 0.00                  |
| 3,600.00            | 25.31           | 121.93      | 3,364.01            | -605.45    | 971.40     | 1,144.63              | 0.00                    | 0.00                   | 0.00                  |
| 3,700.00            | 25.31           | 121.93      | 3,454.42            | -628.06    | 1,007.68   | 1,187.38              | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00            | 25.31           | 121.93      | 3,544.82            | -650.67    | 1,043.95   | 1,230.12              | 0.00                    | 0.00                   | 0.00                  |
| 3,900.00            | 25.31           | 121.93      | 3,635.23            | -673.28    | 1,080.23   | 1,272.87              | 0.00                    | 0.00                   | 0.00                  |
| 4,000.00            | 25.31           | 121.93      | 3,725.63            | -695.89    | 1,116.50   | 1,315.61              | 0.00                    | 0.00                   | 0.00                  |
| 4,100.00            | 25.31           | 121.93      | 3,816.03            | -718.50    | 1,152.78   | 1,358.36              | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00            | 25.31           | 121.93      | 3,906.44            | -741.11    | 1,189.05   | 1,401.10              | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00            | 25.31           | 121.93      | 3,996.84            | -763.72    | 1,225.33   | 1,443.85              | 0.00                    | 0.00                   | 0.00                  |
| 4,400.00            | 25.31           | 121.93      | 4,087.25            | -786.33    | 1,261.60   | 1,486.59              | 0.00                    | 0.00                   | 0.00                  |
| 4,440.65            | 25.31           | 121.93      | 4,124.00            | -795.52    | 1,276.35   | 1,503.97              | 0.00                    | 0.00                   | 0.00                  |
| PRKM TOP            |                 |             |                     |            |            |                       |                         |                        |                       |
| 4,500.00            | 25.31           | 121.93      | 4,177.65            | -808.94    | 1,297.88   | 1,529.34              | 0.00                    | 0.00                   | 0.00                  |
| 4,600.00            | 25.31           | 121.93      | 4,268.05            | -831.55    | 1,334.15   | 1,572.08              | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00            | 25.31           | 121.93      | 4,358.46            | -854.16    | 1,370.43   | 1,614.82              | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00            | 25.31           | 121.93      | 4,448.86            | -876.77    | 1,406.70   | 1,657.57              | 0.00                    | 0.00                   | 0.00                  |

# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |                      |
|------------------|-----------------------------|-------------------------------------|----------------------|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well PEHR 36-1       |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | gl + rkb @ 4959.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | gl + rkb @ 4959.00ft |
| <b>Site:</b>     | WELD_PEHR PAD               | <b>North Reference:</b>             | True                 |
| <b>Well:</b>     | PEHR 36-1                   | <b>Survey Calculation Method:</b>   | Minimum Curvature    |
| <b>Wellbore:</b> | PEHR 36-1                   |                                     |                      |
| <b>Design:</b>   | PEHR 36-1 (wp01)            |                                     |                      |

| Planned Survey       |                 |             |                     |            |            |                       |                         |                        |                       |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 4,879.79             | 25.31           | 121.93      | 4,521.00            | -894.81    | 1,435.65   | 1,691.68              | 0.00                    | 0.00                   | 0.00                  |
| <b>SX TOP</b>        |                 |             |                     |            |            |                       |                         |                        |                       |
| 4,900.00             | 25.31           | 121.93      | 4,539.27            | -899.38    | 1,442.98   | 1,700.31              | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00             | 25.31           | 121.93      | 4,629.67            | -921.98    | 1,479.26   | 1,743.06              | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00             | 25.31           | 121.93      | 4,720.08            | -944.59    | 1,515.53   | 1,785.80              | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00             | 25.31           | 121.93      | 4,810.48            | -967.20    | 1,551.81   | 1,828.55              | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00             | 25.31           | 121.93      | 4,900.88            | -989.81    | 1,588.08   | 1,871.29              | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00             | 25.31           | 121.93      | 4,991.29            | -1,012.42  | 1,624.36   | 1,914.04              | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00             | 25.31           | 121.93      | 5,081.69            | -1,035.03  | 1,660.63   | 1,956.78              | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00             | 25.31           | 121.93      | 5,172.10            | -1,057.64  | 1,696.91   | 1,999.53              | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00             | 25.31           | 121.93      | 5,262.50            | -1,080.25  | 1,733.18   | 2,042.27              | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00             | 25.31           | 121.93      | 5,352.90            | -1,102.86  | 1,769.46   | 2,085.02              | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00             | 25.31           | 121.93      | 5,443.31            | -1,125.47  | 1,805.73   | 2,127.76              | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00             | 25.31           | 121.93      | 5,533.71            | -1,148.08  | 1,842.01   | 2,170.50              | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00             | 25.31           | 121.93      | 5,624.12            | -1,170.69  | 1,878.28   | 2,213.25              | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00             | 25.31           | 121.93      | 5,714.52            | -1,193.30  | 1,914.56   | 2,255.99              | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00             | 25.31           | 121.93      | 5,804.92            | -1,215.91  | 1,950.84   | 2,298.74              | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00             | 25.31           | 121.93      | 5,895.33            | -1,238.52  | 1,987.11   | 2,341.48              | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00             | 25.31           | 121.93      | 5,985.73            | -1,261.13  | 2,023.39   | 2,384.23              | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00             | 25.31           | 121.93      | 6,076.14            | -1,283.74  | 2,059.66   | 2,426.97              | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00             | 25.31           | 121.93      | 6,166.54            | -1,306.35  | 2,095.94   | 2,469.72              | 0.00                    | 0.00                   | 0.00                  |
| 6,723.14             | 25.31           | 121.93      | 6,187.46            | -1,311.58  | 2,104.33   | 2,479.61              | 0.00                    | 0.00                   | 0.00                  |
| 6,800.00             | 23.77           | 121.93      | 6,257.38            | -1,328.46  | 2,131.42   | 2,511.52              | 2.00                    | -2.00                  | 0.00                  |
| 6,900.00             | 21.77           | 121.93      | 6,349.58            | -1,348.93  | 2,164.26   | 2,550.22              | 2.00                    | -2.00                  | 0.00                  |
| 7,000.00             | 19.77           | 121.93      | 6,443.08            | -1,367.69  | 2,194.35   | 2,585.68              | 2.00                    | -2.00                  | 0.00                  |
| 7,100.00             | 17.77           | 121.93      | 6,537.76            | -1,384.70  | 2,221.65   | 2,617.85              | 2.00                    | -2.00                  | 0.00                  |
| 7,200.00             | 15.77           | 121.93      | 6,633.50            | -1,399.96  | 2,246.14   | 2,646.70              | 2.00                    | -2.00                  | 0.00                  |
| 7,300.00             | 13.77           | 121.93      | 6,730.19            | -1,413.45  | 2,267.77   | 2,672.19              | 2.00                    | -2.00                  | 0.00                  |
| 7,400.00             | 11.77           | 121.93      | 6,827.71            | -1,425.14  | 2,286.52   | 2,694.29              | 2.00                    | -2.00                  | 0.00                  |
| 7,500.00             | 9.77            | 121.93      | 6,925.95            | -1,435.02  | 2,302.38   | 2,712.97              | 2.00                    | -2.00                  | 0.00                  |
| 7,600.00             | 7.77            | 121.93      | 7,024.77            | -1,443.08  | 2,315.32   | 2,728.22              | 2.00                    | -2.00                  | 0.00                  |
| 7,700.00             | 5.77            | 121.93      | 7,124.07            | -1,449.31  | 2,325.32   | 2,740.00              | 2.00                    | -2.00                  | 0.00                  |
| 7,793.27             | 3.90            | 121.93      | 7,217.00            | -1,453.47  | 2,331.99   | 2,747.86              | 2.00                    | -2.00                  | 0.00                  |
| <b>NI A TOP</b>      |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,800.00             | 3.77            | 121.93      | 7,223.72            | -1,453.71  | 2,332.37   | 2,748.31              | 2.00                    | -2.00                  | 0.00                  |
| 7,900.00             | 1.77            | 121.93      | 7,323.60            | -1,456.27  | 2,336.47   | 2,753.14              | 2.00                    | -2.00                  | 0.00                  |
| 7,988.42             | 0.00            | 0.00        | 7,412.00            | -1,456.99  | 2,337.63   | 2,754.51              | 2.00                    | -2.00                  | 0.00                  |
| 8,000.00             | 0.00            | 0.00        | 7,423.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,100.00             | 0.00            | 0.00        | 7,523.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,112.42             | 0.00            | 0.00        | 7,536.00            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| <b>CDL TOP</b>       |                 |             |                     |            |            |                       |                         |                        |                       |
| 8,199.42             | 0.00            | 0.00        | 7,623.00            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| <b>GH TOP</b>        |                 |             |                     |            |            |                       |                         |                        |                       |
| 8,200.00             | 0.00            | 0.00        | 7,623.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00             | 0.00            | 0.00        | 7,723.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00             | 0.00            | 0.00        | 7,823.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,500.00             | 0.00            | 0.00        | 7,923.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,553.42             | 0.00            | 0.00        | 7,977.00            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| <b>J TOP</b>         |                 |             |                     |            |            |                       |                         |                        |                       |
| 8,600.00             | 0.00            | 0.00        | 8,023.58            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| 8,688.42             | 0.00            | 0.00        | 8,112.00            | -1,456.99  | 2,337.63   | 2,754.51              | 0.00                    | 0.00                   | 0.00                  |
| <b>PEHR 36-1 BHL</b> |                 |             |                     |            |            |                       |                         |                        |                       |

# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |                      |
|------------------|-----------------------------|-------------------------------------|----------------------|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well PEHR 36-1       |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | gl + rkb @ 4959.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | gl + rkb @ 4959.00ft |
| <b>Site:</b>     | WELD_PEHR PAD               | <b>North Reference:</b>             | True                 |
| <b>Well:</b>     | PEHR 36-1                   | <b>Survey Calculation Method:</b>   | Minimum Curvature    |
| <b>Wellbore:</b> | PEHR 36-1                   |                                     |                      |
| <b>Design:</b>   | PEHR 36-1 (wp01)            |                                     |                      |

| Design Targets  |                  |                 |             |               |               |                    |                   |           |             |
|---|------------------|-----------------|-------------|---------------|---------------|--------------------|-------------------|-----------|-------------|
| Target Name<br>- hit/miss target<br>- Shape           | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(usft) | Easting<br>(usft) | Latitude  | Longitude   |
| PEHR 36-1 BHL<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 8,112.00    | -1,456.99     | 2,337.63      | 1,270,080.07       | 3,184,854.89      | 40.072870 | -104.839454 |

| Casing Points             |                           |        |                           |                         |
|---------------------------|---------------------------|--------|---------------------------|-------------------------|
| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name   | Casing<br>Diameter<br>(") | Hole<br>Diameter<br>(") |
| 919.82                    | 915.00                    | 8-5/8" | 8-5/8                     | 11                      |

| Formations                |                           |          |           |            |                         |  |
|---------------------------|---------------------------|----------|-----------|------------|-------------------------|--|
| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name     | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |  |
| 4,440.65                  | 4,124.00                  | PRKM TOP |           |            |                         |  |
| 4,879.79                  | 4,521.00                  | SX TOP   |           |            |                         |  |
| 7,793.27                  | 7,217.00                  | NI A TOP |           |            |                         |  |
| 8,112.42                  | 7,536.00                  | CDL TOP  |           |            |                         |  |
| 8,199.42                  | 7,623.00                  | GH TOP   |           |            |                         |  |
| 8,553.42                  | 7,977.00                  | J TOP    |           |            |                         |  |